

CHAMBERS' EDINBURGH JOURNAL

CONDUCTED BY WILLIAM AND ROBERT CHAMBERS, EDITORS OF "CHAMBERS'S INFORMATION FOR THE PEOPLE,"
"CHAMBERS'S EDUCATIONAL COURSE," &c.

NUMBER 493.

SATURDAY, JULY 10, 1841.

PRICE THREE HALFPENCE.

THE POOR RELATION.

"Timon.—Why should you want? Behold the earth has roots;

Within this mile break forth a hundred springs.
The oaks bear mast, the briers scarlet hips;
The bounteous housewife, nature, on each bush
Lays her full mess before you. Want!—why want?
First Thief.—We cannot live on grass, on berries, water,
As beasts, and birds, and fishes."—SHAKESPEARE.

BRITISH society, in which the ups and downs are so frequent, gives peculiar occasion for the class of poor relations. They are of two sorts—those who are left behind in their original condition by some "prosperous gentleman," and those who decline from a position still maintained by the generality of their friends. The footing of the parties is, in both cases, and for both parties, a difficult one; for it may equally happen that the fortunate family acquires new views and tastes—indeed, this is almost inevitable—and that the other party is unreasonable in expectation, or more than enough disposed to take offence. The chances of mutual dislike and alienation become therefore very great, unless where there happen to be extremely well-regulated feelings, and a principle superior to the common things of the world, on both sides.

There is also a class of cases where, there not being much sentiment on either side, things go on smoothly enough. The millionaire has a fine house; his wife is a "fine lady," and her daughters are "very accomplished." He is a little sensitive about his new-blown dignity; and the young ladies were one day quite surprised to learn that the plain-looking woman whom they met on the stairs was their cousin. But the one party is modest, and the other not unkind. The plain-looking woman went back with a five-pound note in her hand "to pay coach-hire," though her hopes of the place were doomed to disappointment. In her philosophy she had not "dreamt" of the strange anomaly which such a recommendation would present: "My dear Lady D—, my niece So-and-so," &c. In a case like this, the poor relations are rather vain of their fine friends. In their own circle, they talk of their relative Sir Bragley Goldsworth, describe the baronet's carriages and liveries, and his house in Grosvenor Place; and they saw Miss Sophia one day in the Park, and they think her a beautiful girl, and dare say she will marry a title. Such poor relations as these are generally contented and grateful beings. The five-pound notes "for coach-hire," and the basket of provisions at Christmas, and the huge bundles of cast-off wearing apparel twice a-year, and the nursery's furniture when the nursery's "occupation's gone," and the premium for Dick's apprenticeship, and "that twenty pounds," were all of real service; and the poor relations get on pretty well, and are perhaps as happy as the rich one after all.

But the decayed gentleman—the man of refinement and education—ah! this is a different and a graver story.

It is about noon on a bright February day, and the poor relation is wending his way westward. He is a year or two more than forty, but his hair is very grey, and altogether he looks older. He is not fashionably dressed, but his coat, though worn, is well cut; and his hat has been brushed with scrupulous care. The chances are his boots will least bear inspection, and that though the weather be fine, he carries an umbrella. At last he reaches L— Street. His uncle is a member of parliament, and he has heard that the family are in town. He knows the house very well, but he walks past it more than once; the truth is, he is going to ask a favour, and he has scarcely the courage to knock; and, besides, he is arranging in his

mind exactly what he shall say. The door is opened by a powdered servant. "My master is engaged, sir." "I—I—came by appointment." "I beg pardon, sir, let me take your card." And the poor relation is shown into an ante-room.

In about two minutes the servant returns: "My master will be shortly at liberty, but desires you will walk into the drawing-room."

It is a gorgeous apartment into which he is ushered. He is in no mood to observe anything singly, but the whole appears to him as a rich and glittering mass of gold, and looking-glass, and softest damask; and, winter though it be, the senses are gladdened and refreshed by the sight and odour of rare flowers. A lovely lady rises from her couch to greet him, while two young children are playing near her. The lady is "a beauty;" a fashionable annual has been graced by her portrait, to which verses were written by a right honourable poet. But she offers her hand to the poor relation with that warmth of manner which is mistaken for cordiality, while it is only intended to pass current for—good breeding.

They talk of the weather, and then remember the years which have passed since they met—for rich and poor relations are rarely intimate. The lady inquires after "that handsome little boy," unconscious that he is now six feet high. It is to sue for his uncle's interest for that dear son that the poor relation has sought an interview; and the mention of his name, in terms of kindness, almost brings his mission to his lips. But he checks himself, and the lady's attention is called off by a childish dispute between the little prattlers by her side. "Fie, fie, Augustus, you must share your sweetmeats with your sister—your younger sister; remember how distressed papa would be to see your selfishness. Why, you often say you will take care of little Minny as long as you live, and share every thing with her. There, that is mamma's own boy."

They were simple words, but they fell sweetly on the ear of the poor relation. He was the son of a younger sister, and surely the heart of one who inculcated such principles in the minds of his own offspring, would warm towards his less fortunate relative. The proud man he was about to meet must remember those early days in which a fair young sister shared his childish joys and sorrows. He could not doubt that such memories oftentimes rolled back like a refreshing tide over the heart seared and blasted by ambition, wealth, or worldliness. Still less could he forget his pride in the beautiful and gifted girl, in the spring-time of their lives, when with scarcely a shadow behind or around them, they looked for a future as cloudless as the past and present. What though she wedded one whose only nobility was a true and honourable heart, and whose inheritance was little more than that of talent! Was it not a better and a purer deed than to stand at the altar, the cold and passionless bride of a richer man!

But the poor relation is now in a splendid library. His host, attired in a brocade dressing-gown, is standing, *à la mode Anglaise*, with his back to the fire. He is getting an old man—say, midway between sixty and seventy—but with as few of the infirmities of age as may be. Still his figure is a little bent, and (for the newspaper is in his hand) he wears a pair of gold spectacles.

"Well, Benson, my dear fellow, I am glad to see you. I suppose you did not expect me to answer your note, as you thought—this is the surest time to find me at home. By the way, have you read the leading article in the Times to-day!—a famous cut-up of —'s speech, and richly he deserves it."

The poor relation answers briefly in the negative; but the bright hopes which had just sprung up are chilled—the spell is broken; he feels that they live in two different worlds—that the gulf which separates them is wide—too wide for sympathy to stretch across. However, after a little while he gains sufficient courage to relate the purport of his visit; but amid his hesitation and confusion, comes to the point somewhat abruptly at last.

"I only wish you had told me three weeks ago," exclaims the rich relation; "but you are too late—I have promised it to my friend, Lord I— (a lie yept white—it had only been requested of him) for a protégé of his—a young man who has been his secretary for the last three years."

"I was in hopes from what you told me, when—I called on you in the summer; you may remember I alluded to this very appointment, should it become vacant. William is peculiarly adapted for such a one—his knowledge of languages would be so great an acquisition. But of course—of course, if you have promised it, I have nothing more to say. Poor boy, it will be a sad disappointment."

"I remember your calling last year, Benson, but upon my word I quite forgot what about."

"I was foolish enough to calculate on your interest and influence; I know I ought not to have done so," continued the poor relation, crumpling the brim of his hat in the agitation of his mind; "but, uncle, you told me to remind you if there were any opportunity of serving us, and you see I have taken you at your word. But, really, if any thing could be done for William—it is dreadful to reflect on his talents being so entirely wasted, and his health injured, by his present occupation: twelve hours a day in a counting-house, and that for a wretched pittance, scarcely enough to support and clothe him; and the eldest, too—the eldest of eight."

"I tell you what, Benson, your great blunder was marrying at one-and-twenty." And the rich relation took a pinch of snuff, as he spoke, from a golden box, the lid of which contained a miniature of "the beauty." "You see I was more prudent—my lady wife is thirty years my junior. And then that unfortunate speculation!"

"Has made me a poor man, it is true, but I am still an honest one. I gave up every thing to my creditors, even to my wife's few trinkets. Even now things may work round; and believe me" (for the worm that had been trodden on was beginning to raise its head)—"believe me, the four hundred pounds for which I am your debtor is not the obligation I am least anxious to discharge."

"As for that, Benson, I told you at the time, putting money into an empty purse is like pouring water into a sieve. I looked upon it as a gift, though an useless one; I never expected it back, for though I may give money, I do not lend it. However, that is gone by, but I make it a rule not to lend."

"And yet in business, a timely loan has often saved or made a fortune."

"I know nothing about that," and the snuff-box was again in requisition; "but I do know the chances are, when a man borrows ten pounds that he owes five hundred. He intends to pay, I make no doubt, but he never does. The man who has nothing is always so ridiculously sanguine."

The poor relation bit his lip, but answered only by rising to take leave. "Well, Benson, when will you come and dine with us, *en famille*? We shall be quite alone—there is scarcely a soul in town."

"You must excuse me—we visit very rarely. Good morning."

It is indeed a wide gulf which separates the rich from the poor; and they who drink the sweet waters of prosperity on one side, little know the bitter draught which rises on the other.

"We do too little feel another's pain,
We do too much relax the social chain
Which binds us to each other."

It is true the rich have some vague and indistinct idea of the animal sufferings of the very poor—they who, as Charles Lamb says, "are dragged up" in ignorance, want, and misery; but even this is very shadowy—more like than they would be willing to acknowledge to the notion of the French princess, who wondered how any one could starve for want of bread, when they might eat pie-crust instead. No, they cannot comprehend the gaunt horrors of poverty. They do not know the additional pang it gives to every ill "that flesh is heir to." Sickness, unsoothed by the thousand comforts which may alleviate suffering—death, where regret for the lost one is superseded by a dread lest the survivors should be unable to collect a sum for decent interment—every natural feeling galled by the accursed chain which binds them.

But the story of the Spartan boy and the fox is the only type of the poor proud man. The pride we speak of is not that by which Lucifer fell; it is a pride begotten of the virtues, and dwelling among them—a pride which dreads degradation and corruption of the mind, and which is felt more for the dear ones around than for a man's own self. To such a man extreme poverty falls like a dark and noisome atmosphere around him. By a strange and unnatural law of society—the rise and establishment of which it would be an instructive and interesting task to trace—he is driven from suitable companionship; he is a solitary being, he belongs to no class, or at least has no equals but his brethren in misfortune. His dreams are of want and debt, and he wakes with an oppressive weight on his heart, dreading what new difficulties the day will produce. His temper is rendered irritable by petty stinging annoyances, and while his feelings are wrought to an unnatural degree of sensitiveness to every painful circumstance, the settled depression of his spirits precludes the indulgence of any pleasurable emotion. Sickness, also, generally comes to brim the bitter cup. Anxiety, fatigue, abstinence, improper food, do their work; but the stories of such "broken hearts" have little interest for the tale-teller. Reader, thou perceivest this is not the poverty thy fancy may have pictured, or that poets are wont to laud;—the pretty white cottage, the brown bread and new milk, sweetened haply with fresh fruit; and in winter the bright fireside, replenished by the crackling faggots.

But we left our "poor relation" at his uncle's door. He was not humbled; for if it be true that he who grants a favour unceremoniously, cancels the obligation, we must be more than quits with him who thus refuses it. He was not humbled—no, for the worst pride was whispering in his heart—contempt and hatred, too, were there—though perhaps he knew it not; and for a little time he was a prey to the dark passions of our nature. He would have sold years of his life, could he so have done, to triumph for one hour in the world's eye over his wealthy relative. But his better nature drove out the "unclean spirits;" his cheek paled, and his lip quivered, then came a choking sensation and a few bitter and scalding tears of regret and disappointment. Yet even their trace was gone before he reached his humble dwelling.

The room is small and low, and the shabby furniture is made up of oddments. Hovering over a few dying embers, is a sickly-looking girl of about eighteen; she is busily employed with her needle, earning a poor pittance by that worst paid of all occupations. Her slight figure is bent; she has contracted an incurable stoop. A physician would tell you her spine is affected, and her health consequently undermined. A philosopher would probably reflect on the bitterness of a joyless youth!—youth, that is thought a treasure even by the happy; to feel that Time is stealing it silently away, drop by drop, the nectar untasted, leaving not even a memory of its glory for the future to dwell on. This is the unpitied fate of myriads; for, by a contradiction, youth is pleaded as a mitigation of suffering. "Oh, but they are young" is too often thoughtlessly on the lips—yes, young!—with character still malleable, principles unfixed, passions unregulated, our own nature unknown, with imagination uncurbed, and hope most deceitful. A crushed and blighted youth is a fearful ordeal for the heart to pass through, for which after prosperity can rarely make amends. Does the flower open to the sunshine or the tempest? Yes, a philosopher would reflect and might write a volume on the fate of that sickly girl, but a philanthropist would do something more.

But the poor relation turns first to his wife, the bride of his youth, the partner of his adversity. Her face is wan and faded—her dress is mean and soiled, and the hands he once had praised as soft and delicate, are now hard and coarse from household drudgery. She is preparing a frugal meal for the younger children around her; but a portion of the shadow has fallen upon them—they have grown old before their time. The merry gambol and joyous laugh of childhood are not there. The mother anxiously listens, though hope had fled at the first truth-telling glance; the pride and darling of his parents—it is for him the

mother weeps, and, sinking on her husband's shoulder, she murmurs between her sobs "poor William!"

But "poor William" is "poor" no longer. By dint of persevering energy, he has won his way to the arena of the world, and played his part successfully. It is true his path thither was more thorny, and his progress more slow, than if the one had been cleared and the other hastened by his relative's powerful influence. But such past toil is amply repaid by the consciousness that he is now unshackled by the galling chains of dependence. He has earned friends—he has taken his proper place in society, and, yet more, he has rescued his family from their penury; but he owns no *patron*, of whom it is asked, in that masterpiece of nervous composition, Johnson's letter to Lord Chesterfield, if it be not "one who looks with unconcern on a man struggling for life in the water, and, when he has reached ground, encumbers him with help!" Remember this, ye poor relations; and though, alas! it is not all such stories which have so fair an ending, believe that few trials are too bitter if they teach self-reliance for the future. Remember, too, and believe the old adage, that the "wise and good," however for a while depressed by circumstances, in the long run are rarely the unlucky.

It might have been a pleasant task to paint the reverse of this picture—to have told a story of generosity or gratitude—and none can doubt that there are many such to tell. But would it have been so profitable? No; for "they which are whole need not the physician;" and alas! alas! the kind warm hearts and liberal minds are not so numerous as those which gold has narrowed or hardened—and the noble few, if we rightly judge them, desire no chronicle of their deeds.

BITUMINOUS LAKES.

In different parts of the world the substance called *bitumen*, of which there are various kinds, our common Barbadoes tar being one of them, is found among the mineral formations of the earth, and constitutes a valuable article of commerce. In every form, almost, its inflammable and adhesive qualities render mineral bitumen of great use to man. Sometimes it is discovered in the bowels of the earth in an indurated form, as in the case of asphalt; in other instances, it is found flowing from the rocky stratifications of the globe in jets, or floating on the surface of springs and pools of water; and it also exists in the shape of entire lakes, of a consistence more or less soft. Different names have of course been given to it, as existing in these different conditions. The kind most distinguished for purity and fineness has been called *naphtha*.

Naphtha is usually found on the surface of springs, where its oily and light consistence enables it to float. It is as transparent almost as water, and its colour is a white, or yellowish white. Its smell is strong, its feel oleaginous, and, on the application of flame, it burns with a white light, leaving scarcely any residual matter. It evaporates on exposure to the air, gains an increase of consistence, and, in short, becomes *petroleum*, which is the species of bitumen next to it in thickness in its natural state. *Naphtha* is found in great abundance in Persia and other parts of Asia, where it is put to use for the purposes of combustion by the natives. In some quarters, it issues in a pure state from the strata of the earth. *Petroleum* is likewise found in large quantities in Persia, the Birman empire, and other Asiatic countries, as well as in various parts of Europe. It is of a yellow or reddish-brown colour, less fluid or transparent than water, and leaves a sooty residuum on being burned. It is found in the earth, sometimes at great depths. Mr Howard Malcolm tells us that the Birman petroleum was, in some cases, got from wells 200 or 300 feet deep. He says, "The wells are about 400 in number, and occupy a space of about twelve square miles. Men do not go down these wells, but an earthen pot is lowered in, and drawn up over a beam across the mouth, by two men running off with the rope. The pot is emptied into a little pool, where the water with which it is largely mixed subsides, and the oil is drawn off pure. Each well produces a daily average of 150 gallons of oil, which sells on the spot for about 1s. 8d. per cwt. The gross annual produce is about eighty millions of pounds; it is carried to every part of the kingdom accessible by water, and is used for lights, paving boats, and various other purposes. It has the valuable quality of securing wood from the attacks of insects. A boat's bottom, kept properly in order with it, is about as safe as if coppered. It is thought to be a defence even from white ants."

Petroleum, being more common than *naphtha* in Europe, has been examined by scientific men with a degree of care which throws light on all the other varieties of bitumen; for they are but varieties of the same substance, differing in consistence, and chiefly through exposure to different temperatures, or a casual admixture with earthy substances. It was at one time generally supposed that they had their origin in the subterranean processes of charring and combustion which had previously been in operation in coal deposits. But the truth is, that petroleum has never been found as the result of such processes, when actually seen to occur in coal-mines, nor has any one been able to obtain it by the artificial carbonisation of coal. Dr Reichenbach, we believe, was the first to describe the true nature of bitumen, in all its shapes. By distillation he procured petroleum, in greater or

smaller quantities, from coal, and determined it to be one primitive and separate component of the coal, not a result of the carbonisation of the substance under circumstances of intense heat. In short, he concluded that petroleum is the "turpentine oil of the pines of former ages." Such plants as now afford oil would of course form carbonaceous strata containing it in greater profusion, and the heat of the earth seems to have caused the distillation necessary for its separation. Once formed and separated, it might reach the surface as water does, or at least would have the advantage in many cases of the same elevating forces. As a jet of water, for example, if originating in high strata, has a tendency to burst to the surface in lower grounds, from the pressure behind, so the petroleum springs, in like circumstances, must have a similar inclination to come into view on the surface.

Mineral tar and pitch, in various states of consistence, and with a slight variation of ingredients tending to produce that difference of consistence, constitute the other shapes in which bitumen is commonly found on the face of the earth. Mineral tar differs from vegetable tar chiefly, according to Dr Reichenbach, in the mode of its origin, the first being evolved by subterranean distillation from trees of the primitive world, and the second procured by artificial means from vegetables of recent growth. Their composition is nearly the same. Mineral tar is found in considerable abundance, in a fluid state, in many parts of Asia, America, and Europe. It is viscid, and of a black, brownish-black, or reddish hue; and, when burned, it emits a strong bituminous smell. By continued exposure to the air, it passes successively into three states, each characterised by different names; these are mineral pitch, maltha, and asphalt, the one distinguished from the other principally by consistence. These are all found in a natural state in various quarters of the world. Mineral pitch exists in the form of large lakes in some countries; and among others, the pitch-lakes of Trinidad, to which we shall immediately advert in detail, are especially deserving of notice. Asphalt, of which a description was given in No. 350 of the present work, is so hard when found in the strata of the earth, as to be quarried like ordinary stone. Its hardness arises in a great measure from an admixture with earthy matters. Ancient Babylon was chiefly built of a bituminous stone of this kind; and, to this day, the country around the Dead Sea, and various parts of Syria, yield an earth so liberally impregnated with bitumen as to form a valuable object of commerce. From its consistence, asphalt has been found useful as a cement for architectural purposes, and also as a material for flagging or paving roadways. It is quarried in large quantities in the district of Neufchatel, in the Prussian dominions, as well as in other parts of Europe and Asia. When found in the earth, the asphaltic rock is gelatinous, and more clammy to the touch than pitch. It is by melting it, and allowing it again to become indurated, that it is turned to the building and flagging purposes alluded to. However, its employment has not yet become general, whether from want of a full trial or not, we cannot say.

There is yet another form in which bitumen is found in the mineral strata of the globe. The substance in question has been called elastic bitumen, or mineral caoutchouc—names indicating the peculiarity which distinguishes it from other kinds of bitumen. It was first found in 1786 at Castleton in Derbyshire, and is of a reddish-brown colour. It is usually of soft consistence, adheres to the fingers, and is elastic. It has not been observed, however, in such quantities as to be put to extensive use.

Bitumen, in all its forms, is a valuable substance to man. Its combustible qualities are turned to universal account, and no good substitute for it has yet been discovered for coating boats and ships. The abundance with which nature supplies it to us, is therefore another pleasing proof of the wise and beneficent views of the Creator. The great pitch stores of Trinidad have been alluded to. We copy from Webster's account of a voyage made at command of the British Admiralty, an account of the pitch lakes of Trinidad.

"There is nothing more extraordinary in the structure of the whole island of Trinidad than the extensive pitch formations it contains. The part of the island in which the pitch-grounds, as they are called, are found, is about twenty-four miles from Port Spain, at a place called Point Breca. There, it is said, they are fifteen hundred acres in extent. On landing at Point Breca, which is done on a sandy beach, a person is naturally surprised to see large black rocks of pitch towering above the sand, and pieces of them rolled smooth and plentifully about the beach like pebbles. Every step he takes is on pitch ground. Extensive masses of it are also found, presenting a broad and smooth surface. In some places, the road has been entirely made over them; sometimes passing between large pieces, rising some feet above the surface. In some parts, it seems as if a barrel of pitch had been upset, and left to mix with the soil. The pitch, in general, is merely a superficial coating on the surface of the ground; and nothing but strict examination would allow one to believe that the fertile scene around is situated on pitch-grounds. But it is so; cottages and gardens are implanted on it, and so its vegetation thrives most luxuriantly. The pitch-ground is not one continued mass of this substance, but is a series of broken and irregular patches of it, the soil intervening

for considerable spaces. After walking up a gentle ascent of a mile and a quarter from the sea, over the pitch-ground, the visitor reaches an elevated basin, which is called the pitch-lake. This is a vast mass of pitch, naturally collected in the form of a lake. The surface of it, moreover, assumes the appearance of one, and it is completely surrounded by a wood. The length of this lake is about half a mile, and its greatest breadth about half a furlong. Numerous pools of water abound on the surface, and the deep cracks and fissures in the pitch are filled with it, in which little fish and frogs sport about. The water is perfectly fresh and good. The pitch appears to be in some parts of great depth, if such an opinion may be justified from the cracks and fissures. It is hard enough to sustain the weight of a person walking on it, but becomes a little softened by the heat of the sun; so that persons at a little distance from each other sometimes disappear by sinking gradually into the hollows formed by their own weight. On the confines of the lake, vegetation is abundant and vigorous; and pine-apples grown on the pitch-grounds are said to be remarkably good. Many plants also grow in the pitch itself, without a vestige of earth for their roots; but they are stated to have been more barren formerly than at the present time. The name of pitch-lake can only with propriety be given to this small spot; for by considering the whole as a lake, a person naturally expects to find one very large lake of pitch, which is not the case. The question naturally arises, whether the lake is to be considered as the basin or origin of the whole, from which the sides of the hills and the adjacent country have been overflowed. I think appearances are against such a conclusion. A little to the northward of the pitch is a well, or fount of liquid tar. But the pitch itself is not confined to the lake, for there are submarine beds of it. Midway between Point Naparina and Point Breca, is a very extensive pitch-bank, with no more than ten or twelve feet water on it, the approach to which may be generally known by a strong unpleasant smell, and by the water having a pellicle of tar on its surface. Sometimes, at low water, ships have grounded on this bank; and should they come to an anchor, the anchor and cable are found covered with pitch. The water about the pitch-bank abounds with fish, and fish-pots are generally set on it. At the Serpent's Mouth, there are some reefs formed of pitch, which occasionally increase and again disappear, and are supposed to be connected with the mud volcano. The pitch itself is a dull, black, solid substance, breaking with an even fracture, easily scratched by a knife; it emits a peculiar nauseous smell, like coal-tar; it sinks rapidly in salt water, and marks paper a dull brown. At about 310 degrees Fahrenheit, it fuses imperfectly into a soft mass, more like the softening of coal than the melting of pitch, for it does not run into a fluid mass. It is used in mending and repairing the roads at Trinidad, and for cementing and binding stones under water.

Bitumen exists in large quantities at the bottom of the sea. Anchors have been found to stick in it on many occasions. In short, bitumen exists plentifully on the globe, and is to be reckoned, from its utility, among our most valuable mineral treasures.

As to the chemical composition of bitumen, it is unnecessary to say much. An essential oil, resembling that derived from vegetables of recent growth, and a large proportion of carbonaceous matter, are the ingredients of bitumen, in the forms in which it is most commonly used.

VISIT OF THE PARSEES TO ENGLAND.

SECOND NOTICE.

THE recent visit of the two Parsees, Jehangier Nowrojee and Hircjeebhy Merwanjee, to the British islands, was adverted to in the present periodical on a late occasion, and the character and purposes of the strangers briefly described. It seems to us, however, that a work of so extremely creditable a nature, and so deserving of publicity, admits of being noticed a second time. Both from the few extracts we formerly gave, and those we now take the liberty of selecting, it will be observed that the writers range over a great variety of matters, not the less interesting because within the reach of almost every-day investigation.

The Parsees were shrewd observers; they always kept an eye on the useful, and what could advantageously be introduced to their own country, where an enormous expenditure of human labour is required for performing duties accomplished here with dexterity and ease by mechanical contrivances. A view of Hall's mode of lifting water, for instance, gives them exquisite satisfaction. "There is a most ingenious method of raising water called 'Hall's patent hydraulic belt, or water elevator'; this entirely novel and important invention is one of the cheapest, simplest, and most powerful hydraulic machines ever known; it consists of an endless woollen band or belt, passing over two plain rollers, one fixed at the top of the shaft and another below the surface of the water; by moving the upper roller in such a way as to give the belt a velocity of one thousand feet per minute, the adhesion of the water overcomes its gravity, and a larger quantity than in the case of a common pump is raised and discharged in a uniform and continuous stream at the required elevation. The following testimony in favour of the hydraulic belt, is extracted

from the Polytechnic Journal for the month of November 1840:—"For thousands of years the brains of philosophers have been racked in the pursuit of means for lifting water, wherein the greatest possible amount of capacity, simplicity, and economy should be combined; odd as it may appear, and it does appear odd, it was reserved for the present age to accomplish and bring forward an invention, which far surpasses in these important requisites any thing of the kind previously known—an invention which has withstood the test of experiment under every form and circumstance of disadvantage to which new things brought for the first time into practical use, without the aid of lengthened, or, indeed, of any experience, are necessarily exposed. The power which this water-elevator possesses by nature is one of the most extraordinary and least easily explained things about it. A common pump will lift water thirty feet at an expenditure of one hundred to produce sixty, that is, for every hundred pounds of mechanical force applied to the piston, sixty pounds of water will be raised, and this is the extent of its capacity under the most favourable circumstances; but in the case of a force or lift pump, where water has to be carried above the height of thirty feet by the force of compression, this percentage will materially decrease in proportion to the height to which the water has to be elevated. This part of the subject appeared to us to be so all-important and absorbing, that we made a point of having an experiment tried in our own presence, in order to discover if the statement made by Mr Hall, that his belt would lift at great depths eighty-five to ninety pounds of water for every hundred pounds of power employed, was substantially correct. The result of that experiment, which was made at a well in the Portman market, 130 feet deep, was, that steam power equal to 107,892 pounds, lifted 98,460 pounds of water, or nearly ninety per cent. Here, then, we have the simplest hydraulic machine known, which shall do more work than the most complex can get through, and the cost of which, both in its original construction and subsequent working, shall be a great deal less. Its portability, too, is another great feature in the way of recommendation. We have taken much pains to give the preceding report of this most economical and admirable mode of raising water, thinking that it may be very useful in some parts of India. It is as a large working model fully proved to be what it is represented, and we think it right to give this publicity to it."

Having come to this country mainly with the view of advancing their knowledge of ship-building, of course they did not fail to pay repeated visits to the royal dock-yard at Chatham. "This celebrated dock-yard, which has been considerably enlarged, and received many additional improvements within these few years, occupies an extensive area on the south-east bank of the river Medway. Including the ordnance wharf, it measures about a mile in length, and is surrounded by a high wall, and defended on the land side by strong fortifications, principally of modern origin. The entrance is by a spacious gateway, over which are the royal arms, flanked by embattled towers. The houses of the captain, superintendent, and of the principal officers, are large and handsome buildings; and the various offices for managing the different departments of the yard, especially those which were erected in 1811, for the principal clerks and officers, are extremely neat and commodious, and well become the opulence of the English nation and the importance of the navy. In the storehouses, one of which is 660 feet in length, are deposited prodigious quantities of sail, rigging, hemp, pitch, tar, resin, and all other necessities for the equipment and building of ships. The coils of cordage and of chain cables, the heaps of blocks and innumerable articles requisite for the service, are arranged in exact order, so that in times of emergency, they can all be taken out without confusion; and every department being under the superintendence of proper officers, the business is so much accelerated, that even a first-rate man of war has often been equipped for sea in a few weeks. The principal mast house is nearly 240 feet long, and 120 feet wide; some of the masts deposited here are 34 feet in diameter, and 40 yards in length; the timbers to form the masts are constantly kept floating in two spacious basins constructed for that purpose. The new rope-house is 1110 feet long, and nearly 50 feet wide, in which cables of all dimensions are twisted, some of which are 120 fathoms long, and 22 inches in circumference; the labour of making these cables is partly executed by machines.

The sail-loft is 70 yards long, and the other workshops are of proportional extent. The wet-docks are four in number, all of which are sufficiently capacious for first-rates; two of them are roofed over. There is also a stone dock upon a much larger scale than any of the others. There also are six slips on which new ships are constantly built, all of which have roofs over them that cost about £8000 each. The smith's shop (where anchors of all sizes, some of which weigh nearly five tons, are constantly made) contains about forty forges; the fires are blown by a blast of air from a wheel turned swiftly in an adjoining building. The dock-yard chapel, built for the accommodation of the officers, artificers, and ship-wrights and their families, was completed in 1811, and is reported to have cost upwards of £9000. It is a neat, plain structure of brick, and the interior is extremely light, elegant, and pleasing.

The royal dock-yards are all of them similarly sup-

plied with an abundance of valuable timber and stores, but as we had constant daily opportunities of visiting Chatham yard, we are more conversant with that than any other of the yards; and we could not but observe with great pleasure, the disposition that has been shown by the Admiralty of late years to get from every quarter of the world timber of all descriptions, to test which is the best adapted for ship-building purposes. They have had oak timber from Italy, from Istria, and from Styria, for timbers of ships; and from Dantzic and Memel oak plank for bottom. This last is imported from three to six inches thick, is free from knots, and is of hard texture and very durable. A great deal of the Italian oak is large and nicely formed for ship's timbers, and the Istrian oak, for building steam-vessels, the prettiest small compass timber that was ever seen, and appears to be of good texture. There are also several sorts of larch, Italian, Polish, and North American, or Hackmetak. A merchant ship of near five hundred tons came to Chatham twice, whilst we were there, built in Prussia of Polish larch, by the person who was her captain; she had been fourteen years employed since she was built, had never had any repairs done to her, and was quite as sound and good as when built. The Polish larch is coarse-looking timber, but the knots are well collared, and it appears well adapted for ship-building. The Italian larch is of a finer grain, freer from knots, but we know nothing of its durability. The Hackmetak larch was small and straight, and did not bear a comparison with Italian or Polish larch. There was also a large quantity of African timber, by some misnamed teak; it is a hard reddish wood, straight or compass; it appears to be very durable, but with great loss upon its conversion, and it is unpleasant timber to have to do with, for sometimes, without exhibiting any symptoms of decay on the outside, there will, upon sawing it, be found hollow places within the log, large enough for a man to lie down in. It is, however, useful for bitts, beams, and loadings of hatchways. It is also useful for steps of ladders on board ships, for pillars, &c. There is also another timber, called pitch pine, from Savannah; when it is good, it is very durable, but it is full of a hot resinous substance, that, as soon as the tree is past its prime, appears, if not cut down then, to eat up and destroy all the fabric. It is of uncertain quality, and not a pleasant timber to convert for that reason. They are also using a very curious timber from New Zealand, called cordwite; the trees are very large, some of them being sixty to seventy feet long, and from twenty to twenty-four inches in diameter, and holding seventeen inches at the top end. It has no knots, and is capital for top-masts, and for cutting in planks for steam vessels, as it can be worked in long shifts. After all we have seen, we think there is nothing like teak, and if the British government do not build ships in India, we wonder they do not import Indian teak. It is almost everlasting, and although the first cost appears high, it would be cheaper to use it at any price that it might cost.

A fourteen horse-power engine drives the machine at the ropery, for winding each thread of the yarn as it is spun and passed through hot tar, as well as four capstans for forming the strands; that is, a number of yarns pass through a tube, and are connected to a machine called 'an equaliser,' which gives the proper twist and compression to the said strands, preparatory to closing three of them together into one rope.

The building is erected on an eminence, thirty-five feet above the level of the lowest part of the yard, and the operation of conversion is performed by the agency of steam. The mill is on an extensive scale, and the mechanism may be reduced to three principles:—

First—The saw is drawn up and down as long as it is necessary, by a motion communicated to the wheel. Second—The piece of timber to be cut is advanced by an uniform motion to receive the stroke of the saw, and not the saw to follow the wood. Third—When the saw has cut through the whole length of the timber, the whole machine stops of itself, and remains immovable; lest, having no obstacle to surmount, the moving power should turn the wheel with too great a velocity, and injure the machinery.

The room in which the saws are worked is ninety feet square, and covered with a light roof of wood and wrought iron, which contributes much to the internal beauty of the place. In this room there are eight saw frames and three circular saw benches, besides the capstans for supplying the frames with the wood, by drawing the pieces from the outside of the mill to the side of the saws.

These frames are entirely independent of each other, and are capable of carrying from one to twenty-four saws; the number of saws put into one frame will depend on the number of cuts that are to be made, and may be arranged at different distances, according to the thickness required.

The supplying the saws with timber may be regulated at pleasure, according to the nature of the wood or the number of cuts, though the saws always make the same number of strokes, namely, eighty in a minute. The drags which convey the timber to the saws, besides their progressive, have a retrograde motion, and roll backwards when the timber is cut. There are likewise various ingenious contrivances for holding the timber while it is sawn, and also for following the natural bend of the wood when requisite.

Two of the saw frames are appropriated to deal slitting, an operation which is performed with amazing

rapidity and the greatest precision. We have seen at one frame two deals ten feet in length, slit into four boards in the short space of ten minutes; and the two frames have produced in six days (working only seven hours and a quarter each day) thirty-four thousand superficial feet of timber. The whole of this machinery, together with the three circular saws, are propelled by an engine of thirty-six horse power; wedges, and other light work for joiners, are cut by the circular saws."

The extreme gullibility of the English people in the encouragement of all kinds of quackery, calls forth some rational remarks from these simple-minded foreigners. "Always bear this in mind, really good articles, well manufactured of the best materials, although apparently a little dearer, are cheapest in the end. They who profess to sell cheap cannot procure a good article at less than their fair-dealing neighbours. And we would say, be careful how you deal with a man who advertises extensively. You are quite sure you and every customer must pay part of his advertisements, or else get an inferior article to that made by the man who spends no money upon advertisements; and never deal at a shop that has two prices, asking in the first instance more than they mean to take. Whenever you see a shop pretending to sell 'bankrupts' stocks at great sacrifice, whenever you see a shop with goods to be sold at 'immense sacrifice,' pass it quietly by and go to some quiet business-like shop, not where there is a long train of carriages waiting at the door, because there, if you walk in, you are not waited upon until the carriage company are all served. Also avoid making purchases at a shop where the front is very handsomely decorated and extravagantly fitted up; if you do, you must contribute to the folly of the owner by paying in proportion for the show, besides that of the actual worth of the article you buy. These shops are frequented by those who care little for money; but for a man of moderate fortune, they are much more pleasant to look at and admire than make purchases at."

The Parsees were in Kent during the hop season, and they give a very pleasing account of the proceedings characteristic of the hop harvest. "It was the time for gathering the hops when we were at Waterbury, and it affords, for a few weeks, employment for some thousands of men, women, and children. The hops are carefully picked, one by one, and dropped in a bin, which is a cloth formed into a pit, which will hold about twenty bushels, by crossing long poles. And the hop-pole being laid across the top thereof, the hops are gathered, then measured, as the pickers are paid by the bushel, and then taken to the kiln, called an oast-house, where they are dried over a coke fire upon horse-hair cloths, and then pressed down by men stamping them into coarse cloth bags, which usually weigh two hundredweight and a half, or into finer cloth, called pockets, weighing one hundredweight and a half, and they are then fit for making beer. They fluctuate very much in price, having been sold for upwards of £20 per hundredweight, and at £2, so that very many persons who speculate in them have been ruined. Hops are used for making the daily drink of Englishmen, called beer. A grain called barley, is placed in water until it sprouts for growing; when it is placed in a kiln the vegetation is stopped, and the grain is roasted; this is called malt, which is bruised in a mill, and water at 168 degrees of temperature is poured over it, in the proportion of about fifteen gallons of water to eight or nine gallons of ground malt; this is stirred about violently, which is called washing, and after about an hour, the liquor thus obtained, called sweet wort, is placed in a copper, and to about seventeen gallons one pound of hops is added, which being boiled for an hour, is then poured out and cooled as quickly as possible; when it is down to blood heat, a little yeast (or leaven) is added, which causes it to ferment, and then it is beer. Beer is of several descriptions of strength and colour, according to the proportion of malt and the different states of roasting to which the malt has been subjected. Brown stout and porter, from high roasted malt, are nearly black; and ales from pale malt are nearly without colour." To how many must this sort of information be new, given as it is by strangers to our island!

The Hindoo visitors have a chapter of no slight interest and value upon the "Newspapers and Periodicals" of Great Britain. About newspapers, and the unlimited devotion with which each man pins his faith to the sleeve of his own favourite party-journal, the Parsees well remark:—"We could not reside so long in England without learning the great importance that is attached by English people to their newspapers. We believe, to very many it is the greatest pleasure they have in life to get the newspaper at their breakfast in the morning, and it is laughable to see how immediately readers of a certain class adopt the opinions of the daily paper they take."

"The Times says there must be war with America, and I'm sure it's true," says one. "Why, the Chronicle says, that it is not the report of Congress, but only of a private committee, and we shall have no war, depend upon it," replies his friend. "Look what the Times says for its foreign expresses," says one. "I don't believe one word that the Times says," replies his friend. And thus it is that many confirmed political men act, and put full faith and confidence in their respective papers; and to enter a news-room, where a number of newspapers, of different sides of politics, are lying on the table, is to us (who of course

have no politics at all) most amusing; and to read the account of the same meeting described in papers of opposite politics—they are so completely at variance with each other. The speakers on one side of the question 'were listened to with profound attention; their party had by far the largest number present.' When the other paper states, 'the speakers on the opposite side were inaudible, and the assemblage very thin,' and so on. So much for where party leads them."

After a description of the expenses of a daily morning paper, quoted from the pages of our own Journal, and a general character of the most popular metropolitan newspapers, the Parsees take notice of the monthly periodicals, the annuals, and, lastly, the weekly sheets, devoted, not to politics, but general information of a useful kind. Among the rest is mentioned Chambers's Edinburgh Journal, and it gives us, we candidly admit, very great pleasure to find our humble labours estimated so highly by men from a far-off land, as the subjoined extract proves them to have been. We quote the passage, not as arrogating to ourselves, certainly, the exalted place in periodical literature which the Parsees have been pleased to assign to us, but because we have here a proof that cheapness of price is no longer a characteristic calculated to draw down contempt upon a literary work, or prevent its appreciation, either in the eyes of foreigners or our own countrymen. The Hindoo strangers observe:—"Soon after the Penny Magazine was started [an error, see note below], Messrs William and Robert Chambers started a weekly periodical for three halfpence per week, with eight pages, of three columns each, printed very small, called 'Chambers's Edinburgh Journal,' and filled with useful information and most amusing matter: we consider it the most talented and the best periodical in the kingdom. Its advice to all classes is such as, if followed, would make men wise and happy. It endeavours to make the working classes fond of reading, and all its tales and observations point out the happiness which results from virtuous actions. Messrs Chambers also publish weekly, price three halfpence, 'Chambers's Information for the People,' which treats upon every known science, and gives a valuable treatise, complete in itself, upon each branch of science, for only three halfpence. This is an invaluable work."

We now take leave of our Parsee friends. Their work must be felt, from our various extracts, to be an interesting one, and worthy of the public favour.

OCCASIONAL NOTE.

CHANDELIERS.

FAMILIES having occasion to use gas chandeliers suspended from the roofs of their dining or drawing-rooms or lobbies, should exercise the greatest care in seeing them securely fixed, and in ascertaining that the suspending rods and chains are perfectly sound. Workmen too often act only in terms of some familiar routine of duty, and pay but little regard to special circumstances which may affect a particular case. The work accordingly proves, in some instances, insufficient, and serious danger ensues. Some time ago, a lady of our acquaintance had her life endangered by the sudden falling of a lobby chandelier upon her head. Lately, a chandelier in the dining-room of a gentleman in Edinburgh fell with a dreadful crash on the table, just as a party were about to sit down to dinner, of course destroying the dishes, injuring the table, and causing great alarm and inconvenience. The falling of such things in shops is also common; and some years ago a splendid and massive chandelier fell in one of the theatres in London. In December last, much excitement was caused in Washington by the falling of a magnificent chandelier in the House of Representatives. The chandelier had been lighted for a first time on the previous evening—it weighed 7000 lbs., and cost about 4000 dollars. The fall was occasioned by a defective suspending chain, and by the countervailing weight, by which it was lowered and raised, being too heavy, causing a rapid ascent, and a concussion on stopping. The House, happily, had not met at the time; the chandelier had been lowered previously for the purpose of cleaning it, and had been just raised, when, at the concussion mentioned, the chain snapped, and the enormous mass fell. The attendants were barely beyond reach at the time, and one did receive a slight injury. The floor was broken, several desks and chairs destroyed, and the chandelier reduced to ruin. Had the members been in their places, the effects must have been most disastrous.

The frequent occurrence of this kind of misfortunes should teach great caution in suspending chandeliers from ceilings. Besides ensuring that the rods and

* The matter is unimportant, but to rectify a very common error perseveringly maintained in different quarters, we consider it our duty to state that Chambers's Edinburgh Journal was commenced nearly two months before the Penny Magazine—the date of its first publication being the 4th of February 1832, while that of the Penny Magazine was the 31st of March following. In London, we have frequently found the most ludicrous scepticism on this point, which, of course, admits of irrefragable evidence in the dates printed on the first numbers of the respective works.

chains are sound, and strong enough to bear the weight, the long screw nails which are sent through the roof should pierce a cross timber above, and be clenched with nuts screwed on their extremities. No chandelier can be considered safe which is merely screwed to the ceiling; for any motion overhead, such as dancing, is apt to loosen that simple kind of fastening.

HERALDIC BEARINGS.

HERALDRY, in the more extended sense of the term, was contemporaneous in its origin with chivalry, or rather, perhaps, with the feudal system of government. At a much earlier period, indeed, peculiar standards were borne by individuals, and paintings and devices were traced on shields and helmets. The children of Israel, in the time of Moses, went out to the field, "every man under his own standard," and shields and helmets were frequently marked in the manner alluded to both by the Greeks and Romans. But it was reserved for the days of Charlemagne and Frederick Barbarossa to digest heraldry into a science, and indeed to invent the very term itself. *Heer* (army) and *aid* (a servant) seem to be the Teutonic roots of the word *herald*, which originally signified, according to Johnson, "an officer whose business it is to register genealogies, adjust ensigns armorial, and anciently to carry messages between princes, and proclaim war and peace." We have thus the connexion between the radical and the ultimate signification clearly pointed out.

Proud of the powers which they could individually bring into the field, the barons and knights, at the commencement of the feudal system, were naturally anxious to adopt some standards, ensigns, or devices, which might distinguish themselves, their families, and followers, from others, and gain them the degree of individual prominence and consequence which they desired, and thought themselves deserving of. Besides, when knightly warriors were cased in complete steel, by which their bodies and their countenances were alike concealed, there was no way of identifying them, or distinguishing one from another, but by specific emblems painted on their shields and armour; and often when the individual, in accordance with the fantastic notions of the times, was desirous of having his name kept secret, in field or tourney, he had no way of accomplishing his end, and at the same time of marking his individuality, but by the adoption of a distinct motto or device. We can readily suppose that such distinctions, once made illustrious by some single bearer, would be adopted with pride by his family successors. The devices adopted by these roving knights were usually of a fanciful nature, and emblematic, as they believed, of circumstances either connected with their condition or peculiar objects of pursuit. It will be remembered, for instance, that Scott describes Richard of England as bearing a bolt and fetterlock on his shield, symbolic of his late release from captivity, and that the knight of Ivanhoe chose the device of a tree torn up by the roots, as expressive of his disinherited condition. In latter times, when heraldry rose to be an established art, it became customary for sovereigns to choose for parties whom they ennobled, or who had won honour by any peculiar feat, such armorial bearings as either commemorated the act in question, or were most acceptable to those chiefly concerned. This custom has been preserved to the present day; the sovereign by his deputy, the king-at-arms, conferring armorial bearings on those who claim and are pleased to pay for the use of them.

The kingdom of France, including the vassal sovereignties of Normandy, Burgundy, and others, formed the scene in which heraldry most peculiarly flourished, and at this hour the terms of the art are nearly all of French origin. From what has been said, it may be conceived that arms or armorial bearings were in all cases marks of honour. They were sometimes borne by communities as well as by individuals, and might be attached to official positions. Arms of *dominion* (or those borne by kings as national ensigns); arms of *pretension* (or those founded upon such a claim as our sovereigns, up to the time of George III., most absurdly made to the throne of France); arms of *concession* (or such as were conceded to Sir Sidney Smith by George III., "*Cœur de Lion*" being the motto in that case, allusive to Sir Sidney's feats at a place formerly besieged by King Richard I.); arms of *community* (or those borne by cities and all corporate bodies, or by bishops in virtue of office); arms of *patronage* (or those borne, in addition to personal arms, by provincial governors, feudal superiors, patrons of benefices, and the like); arms of *family* (or those held by hereditary descent); arms of *alliance* (or such as families mingle, or *quarter*, as it is called, with their own, in consequence of marriages); and arms of *succession* (or arms taken up, or quartered, in consequence of succession to property); these are the principal kinds of arms which the science of heraldry now recognises.

The *escutcheon*, the *tinctures*, the *charges*, and the *ornaments*, are the essential or integral parts of arms. The description or proper explanation of these is called *blazoning*, and hence our common use of the word as signifying "prominently putting forth any thing" before the world. The *escutcheon*, otherwise called the *shield*, from the place where devices at first were usually painted, signifies simply the enclosed

ground on which are represented the component parts and figures of a coat of armour. Escutcheons were of various shapes, those of knights-bannerets being square. The common shape now-a-days is an oblong figure, rectangular above, and rounded slightly at the inferior corners, with a dependent peak in the centre.

The term *tinctures* is applied to the colours of the shield, or of the bearings, or parts of the bearings, marked upon and enclosed within the shield. Seven colours are usually admitted in heraldry, namely, the hues of the metals, gold and silver, styled or and argent; and the five colours, blue, red, green, purple, and black, called in heraldic French, *azure, gules, vert, purpure, and sable*. English heralds admit two other tints, orange, or tenny, and blood-colour, or sanguine. When animals or natural objects find a place in armorial bearings, they retain their natural hue, which is expressed by the word *proper*. In engravings and drawings, these colours are commonly represented by dots and lines, peculiarly arranged. The heralds of some countries represent colours or blazon by the names of precious stones, planets, &c. Thus, by some heralds, *topaz* is put for *or*, *pearl* for *argent*, and so on.

Furs being usually employed of old in covering shields, they have found a permanent though merely nominal place in the blazonings of arms. Three kinds only are in general use, namely, *ermine* (represented by a silver field with black spots); *counter-ermine* (where the ground is sable and the spotting white); and *vair* (expressed by blue and white skins, cut into the form of small bells, and set in parallel rows). There are various ways of arranging these fur-emblems, and some heralds add others to the list.

In escutcheons which have more tinctures than one, the field is divided by lines, which are either perpendicular or diagonal, straight or wavy, as it may be. Particular names are given to the different modes of dividing a shield by lines. Thus, one separated by a perpendicular line into two equal parts, is said to be parted *per pale*; a horizontal division of the same kind is a *parting per fess*; by a diagonal dexter, or to the right, *parted per bend*; and by a diagonal sinister, *parted per bend sinister*. The division of a shield into four equal parts is called a *quartering*, and this may be done in various ways not necessary to be particularised, though all marked by special designations. When a shield is divided into many parts, to admit of placing in it the different arms resulting from marriage alliances, it is called a *genealogical achievement*. In the same coat of arms there may be what are called *differences*, to distinguish a cadet-branch, for example, from the main trunk; and these may consist in particular borders, or some such devices. Hence the phrase, in allusion to coats of arms, "borne with a difference."

Armourists call whatsoever is contained in the field of the escutcheon, whether lines or figures, and whether occupying a part or the whole, the *charge*. These charges are divided into *honourable ordinaries*, *sub-ordinaries*, and *common charges*. The first of these three classes are charges consisting of lines only, named differently according to form and arrangement. Sub-ordinaries are peculiar heraldic figures, frequently used. Common charges are often figures of animals, either natural or chimerical, as, for instance, lions and unicorns; planets, flowers, instruments, and the like, are also often used as common charges. The names given to the lineal charges or others, whether *bends, bars, fesses, crosses, or chevrans*, it would be tedious to enumerate, and they have already been partly alluded to. These charges, it will be remembered, are the contents of the field or enclosed ground of the escutcheon. The external ornaments of the escutcheon are different things: they are very various. Crowns and coronets, mitres and helmets, hands and daggers, animal figures, &c., are among the most common external ornaments. The scroll, or space containing the motto, ranks also amongst these exterior decorations, and is usually placed below the shield. The supporters are likewise external ornaments, being figures most commonly of men or animals, placed erect on the ends of the scroll, at each side of the escutcheon.

The mottoes used in armorial bearings are sometimes curious and worthy of note. As is observed in a late paper in the *Athenæum*, "The custom of using some moral sentence, or other expression, with armorial insignia, may be traced to the fourteenth century, though it did not become general until about the reign of King Edward IV. These 'words,' 'REASONS,' or 'MOTTOES,' either indicated the predominant sentiment in the mind, or referred to some important event in the life of the person who chose them; or they alluded to the charges in their arms or crest, or contained a pun upon their names. Though generally hereditary, a motto may be assumed and relinquished at pleasure; for, unlike arms, crests, or supporters, they are independent of heraldic authority. It does not appear that a motto was ever borne on the tunic or other parts of the dress, except in tournaments, nor were they introduced on banners; but they were placed, together with the crest or badge, on pennons and standards. It has long been usual to insert the motto on a scroll, under the shield, on seals; but the ancient practice was to inscribe the motto on a circle at the extreme edge of the seal, though the circle more frequently contained the name and rank of the individual."

In a little paper in our 370th number, a few of our

odd heraldic mottoes were mentioned, and particularly such as involved puns on the family names of the bearers. The subject, however, was far from being exhausted on the occasion in question, and the preceding brief explanation of the chief points in armorial blazonings cannot be better followed up than by a reference to such mottoes of interest as were formerly overlooked. The *Athenæum* article will aid us in supplying the deficiency. "Tot capita, tot sententie" (so many heads, so many mottoes—or ways of thinking) is an axiom, itself the old motto of the Fitzalans, peculiarly applicable to this subject.

Punning mottoes, constituting what is called *canting heraldry*, are common among our great national houses. For example, "Care" (Beware), CAVE; "At spes non fracta" (Hope yet remains), HOPE, the crest of which family is the globe broken beneath a rainbow; "Colens deum et regem" (Revering God and the king), COLLINS; "Deum cole, regem serve" (Revere God, serve the king), COLE; "En grace offre" (Trust in grace), GRACE; "De monte alto" (From a lofty mountain), MONTALT; "Dieu est ma Roche" (God is my Rock), ROCHE; "E tenebris lux" (Light from darkness), LIGHTBODY; "Eto miles fidelis" (Be a faithful soldier), MILES; "Ex sudore cultus" (By the sweat of the brow), SWETTENHAM; "Liber et audax" (Free and bold), FREEMAN; "Magnum in pareo" (Much in little), LITTLE; "Oriens sylvæ" (A growing, also eastern, wood), EASTWOOD; "Mos legem regit" (Custom guides the law), MOSLEY; "Non pas Pourrage, mais l'ouvrier" (Not the work, but the workman), WORKMAN; "Pares cum paribus" (Like with like), PARES; "Pie reponere" (Rest in pious trust), PIERREPONT; "Pollet eirtus" (Virtue prevails), POLE; "Quod dixi, dixi" (What I have said, I have said), DIXIE; "Sacra querous" (The holy oak), HOLYOAKE; "Sumus" (We are), WEARE; "Toujours jeune" (Always young), YOUNG; "Tout hardi" (Ever hardy), M'HARDIE; "Bene factum" (Well done), WELDON; "Vero nihil verius" (Nothing more true than truth—or Vere), VERE; "Vincenti dabitur" (It shall be given to the conqueror), VINCENT; "Graves discite mores" (Acquire grave manners), GRAVES; "Latet anguis in herba" (The snake lurks in the grass), ANGLISH. Of course, in the Englishing of these mottoes, the pun is most commonly lost. The word "Beware" has no likeness to the name CAVE, though the Latin equivalent "Cave" has. On the other hand, in the cases of a few names, such as HOPE, WELDON, HOLYOAKE, the pun either rests entirely on the English translation, or is preserved in it.

A collocation of words, having such a resemblance in sound as to give the sentence a rhyming turn, constituted a species of motto extremely popular and common in chivalric times. The family motto, for example, of the De Burgos or De Burghs of Ireland, now represented by the MARQUIS DE CLANRICARDE, was "Un Roi, une Foi, une Loi" (One King, one Faith, one Law). The present LORD BROUGHAM takes a rhythmical motto of a similar order, "Pro Rege, Lege, Grege" (For King, Law, People); a motto, by the bye, which some wagish political opponent proposed to read in a new way, as being more consonant with the popular likings of the noble lord—"Pro Rege lege Grege" (For King read People). The motto of the DALHOUSIE family, "Ora et labora" (Pray and work), and that of the LINDSAYS, EARLS OF BALCARRAS, "Astra, castra, Numen, lumen" (The stars, the camp, the LORD, the lamp), are the only other examples of this sort of motto which we have space to adduce.

The *Athenæum* gives a number of corporation mottoes, which we here copy, with accompanying translations. The mottoes of some companies are curious. That of the Blacksmiths is, "By hammer and hand all arts do stand;" but that of the Innholders is rather profane—"Come, ye blessed, when I was harbourless, ye lodged me!" The Glaziers' is better, "Da Nobis LUCEM Domine!" (Give us light, O Lord!); or, as it is elsewhere given, "LUMEN umbra Dei" (Light is God's shadow). The Marblers' motto reeks strongly of the shop, "Grind well;" while the Sadlers' inculcates a necessary lesson to a horseman, "Hold fast, sit sure." The Joiners' motto is, "Join truth with trust;" that of the Tallowmakers, "Quæ arguuntur à LUMINE manifestantur" (Things hid are disclosed by light); that of the Salters, "SAL sapit omnia" (Salt savours all); and of the Clockmakers, "TEMPUS rerum imperator" (Time the ruler of all).

The more favourite mottoes, by which we mean, mottoes borne by the greatest number of families, refer to the Almighty, Faith, Hope, Virtue, Fidelity, Strength, Fortitude, Liberty, the Cross, Loyalty, Honour, Labour, &c., and were often taken from the ancient poets,—"Dominus providebit" (God will provide); "Esperance en Dieu" (Hope in God); "Fas et Spera" (Do and Hope); "Dum spiro spero" (Whilst I breathe I hope); "Esse quam videri" (To be, not to seem); "Fide sed cui ride" (Trust, but look to whom); "Fide et fortitudine" (By faith and fortitude); "Fortis atque fidelis" (Brave and faithful); "Fortuna facit fortibus" (Fortune favours the brave); "Fortis qui prudens" (Brave is he who is prudent); "Fortitudine" (By fortitude); "In hoc signo vinces" (Under this standard you will conquer); "Malo mori quam fœdari" (Death before disgrace); "Nec temere nec timide" (Neither rashly nor timidly); "Nil conscire sibi" (To be conscious of nothing bad); "Nil desperandum" (Never despair); "Nunquam non paratus" (Always ready); "Pro aris et focis" (For altar and hearth); "Pro patria" (For fatherland); "Semper fidelis" (Always faithful);

"Perseverando" (By perseverance); "Spectemur agendo" (Let us be known by our deeds); "Spero" (I hope), &c.

In being distinguished by their sovereigns for service done, military and naval men have often chosen mottoes allusive to the scene of their exploits. Admiral Sir Thomas Louis, having won honour under Nelson at Canopus, a spot at the mouth of the Nile, and having subsequently commanded the ship *Canopus* in other actions, took the motto, "In Canopo ut ad Canopum" (In the Canopus as at the Canopus), indicating his proud consciousness of having fulfilled the promise of his first exploit. Earl St Vincent took the motto "Thus," alluding to the command given to the steersman in action. Sir George Cockburn, another seaman, imitated the Earl by taking "Ita" (So), having a similar application; though a naval officer who had small pretensions to scholarship, but knew that Sir George had served on the American coasts, explained it to mean, "I took America."

Scientific men, who have received honours from their sovereign, have in some instances chosen mottoes illustrative of their discoveries in science. Sir William Herschel took the appropriate one of "Cælis exploratis" (From the explored heavens); and Sir Humphry Davy not less aptly chose the words, "Igne constricto vita secuta" (Life secured by the constrained flame), referring to the safety-lamp.

For lawyers, the mottoes of Lord Ellenborough, "Compositum jus fœque Animi" (Law and Equity), of Lord Thurlow, "Justitia soror Fides" (Faith the sister of Justice); of Lord Erskine, "Trial by jury;" and of Lord Wynford, "Libertas in Legibus" (Liberty in the Laws), which probably occurred on their rings, which, according to an ancient custom, they presented to the sovereign on attaining the dignity of the coat, were well chosen: but that of Lord Lyndhurst offers too great a temptation for a satirical version or pun—"Ultra pergere" (Onwards to proceed)—the possibility of which should be especially avoided when selecting a motto or a title, or when giving a name to a house.

Doubtless, the facilities for curt and pointed expression which the Latin language affords, constitute the main reason for its prevalent use as the vehicle of family mottoes. But before closing the subject, we would express a wish that our own language might be a little more frequently applied to the same ends. Such a motto as that of WHITE, EARL OF BANTRY, "The noblest motive is the public good," shows how easily and briefly it may be made to express the best sentiments. At the same time, the point is certainly not one of very great importance.

ACCOUNT OF JANE C. RIDER, A SOMNAMBULIST.

IN 1833, Jane C. Rider, a girl of seventeen years of age, attracted great attention at Springfield, in the state of Massachusetts, by the extraordinary circumstances attending an illness with which she was then seized. An account of her was drawn up soon after by her physician, Dr Belden, and published in a small volume,* a copy of which has been handed us by a friend recently returned from America, who at the same time assured us that he had seen Miss Rider herself, besides many of the individuals who had witnessed the phenomena attending her illness, and could give strong testimony to the truth of all which has been stated on the subject.

The condition of somnambulism—a state of sleep, in which the will and senses are partially awake—has been already discussed in these pages. We have also presented some cases of an apparently farther stage of this condition, in which there was what is called *double consciousness*—that is to say, a consciousness and memory for each of the alternate conditions of waking and somnambulism, so that what occurred in the one state was remembered when that state recurred, and what occurred in the other state was remembered when that other state recurred; but not otherwise respectively. All of these phenomena sink into insignificance beside those which were ultimately developed in the case now under notice.

Miss Rider had occasionally walked in her sleep in infancy, and at all times required an unusual amount of sleep. She had also been subject to severe headaches, and particularly to an acute and permanent pain at a particular spot on the left side of her head. It was not till she reached, or was about to reach, the period of womanhood, namely, about her seventeenth year, that she showed any symptoms of illness to excite alarm. One night, she rose from her bed in an excited state, and seemed to the family with which she was living as if she were deranged. A medical man attended, gave her an emetic, and thus in a short time restored her to tranquillity. A month after, she rose again during the night, in a somnambulist state; and not appearing so much excited as before, was allowed by her friends to go about the house. She immediately proceeded to arrange the things for the family breakfast, and did the whole duty with perfect accuracy, although her eyes appeared closed, and much of what she did was done in the dark. On rising, as usual, in the morning, she had no recollection of what she had done. Fits like this now came on at about a week's interval; but her proceedings were for some time only those of common somnambulists. The

* Springfield: published by G. and C. Merriam. 1834.

only very surprising circumstance attending them was the power which she was found to have on various occasions of sewing, and even of threading her needle, without the benefit of light. "In one instance, she not only arranged the table for a meal, but actually prepared a dinner in the night, with her eyes closed. She first went into the cellar in the dark, procured the vegetables, washed each kind separately, brought in the wood, and made a fire. While they were being boiled, she completed the arrangements of the table, and then proceeded to try the vegetables, to ascertain whether they were sufficiently cooked. After repeated trials, she observed the smallest of them were done; she took them up, and after waiting a little, said the rest would do, and took them up also. They were actually very well cooked. She then remarked that S—, a little girl in the family, drank milk, and procured a bowl for her; she also procured one for herself and drank it. As the family did not seat themselves at table, she became impatient, and complained that the men never were ready for their dinner. While engaged in her preparations, she observed a lamp burning in the room, and extinguished it, saying, she 'did not know why people wished to keep a lamp burning in the day time.' On being requested to go to bed, she objected, alleging as a reason, that it was day; but was persuaded to do so by being reminded that she was not well, and that sleep would relieve her head. In the morning she appeared as usual, totally unconscious of the transactions of the preceding night."

There was abundant evidence "that she recollected, during a paroxysm, circumstances which occurred in a former attack, though there was no remembrance of them in the interval. A single illustration will suffice, though many more might be given. In a paroxysm, a lady who was present placed in her hand a bead bag which she had never before seen. She examined it, named the colours, and compared them with those of a bag belonging to a lady in the family. The latter bag being presented to her in a subsequent paroxysm, the recollection of the former was restored; she told the colours of the beads, and made the same remarks respecting the comparative value of the two bags that she had done before. I had taken measures to satisfy myself in the interval that she then remembered nothing of the first impression."

After the disease, as it may be called, had affected her for nearly four months, she began to be liable to fall into the sleep-walking condition by day as well as by night, and in the midst of her ordinary occupations. For example, she would fall asleep while at the pump drawing water. It was then observed that the ordinary light of day was painful to her. A dull day was spoken of by her as an extremely bright one; and when a small degree of light was reflected upon her closed eyelids from a concave mirror—such a degree of light as no other person felt painful—she shrunk away, asking why they wished to shoot her in the eyes. It became necessary, in her day fits, to protect her eyes from the light by a bandage. All these circumstances seemed to show that the organs had acquired an unusual degree of sensibility. From an early stage of her illness, her friends had been convinced that these organs were also more powerful than usual, for she walked about the house in the dark, attending to her imaginary duties, and avoiding every obstacle in her way, without groping, or the appearance of any kind of difficulty, or even hesitation. When things were put in her way, or the position of any thing was changed, she always observed it, and accommodated herself to the change. Seeing her act thus night after night, they at length thought of trying if she could read in the dark. "She was seated in a corner of the room, the lights were placed at a distance from her, and so screened as to leave her in almost entire darkness. In this situation she read with ease a great number of cards which were presented to her, some of which were written with a pencil, and so obscurely, that in a faint light no trace could be discerned by common eyes. She told the date of coins, even when the figures were nearly obliterated. A visitor handed her a letter, with the request that she would read the motto on the seal, which she readily did, although several persons present had been unable to decipher it with the aid of a lamp. The whole of this time the eyes were, to all appearance, perfectly closed."

For greater security, a second handkerchief was sometimes placed below the one which she wore constantly over her eyes, but apparently without causing any obstruction to the vision. She also repeated with great propriety and distinctness several pieces of poetry, some of which she had learned in childhood, but had forgotten, and others which she had merely read several years since without having ever committed them to memory. In addition to this she sung several songs, such as 'Auld Lang Syne' and 'Bruce's Address to his Army,' with propriety and correctness. Yet she never learned to sing, and never has been known to sing a tune when awake. She was evidently very much exhausted by these efforts; and at times her sufferings were so extreme, that she could not be induced to answer any questions."

Dr Belden appears to have now entered into the idea of experimenting upon Miss Rider's extraordinary vision. He says—"I took a large black silk handkerchief, placed between the folds two pieces of cotton batting, and applied it in such a way, that the cotton came directly over the eyes, and completely filled the cavity on each side of the nose—the silk was distinctly

seen to be in close contact with the skin. Various names were then written on cards, both of persons with whom she was acquainted, and of those who were unknown to her, which she read as soon as they were presented to her. This was done by most of the persons in the room. In reading she always held the paper the right side up, and brought it into the line of vision. The cards were generally placed in her hand for the purpose of attracting her notice; but when her attention was excited, she read equally well that which was held before her by another."

Being desirous, if possible, to prove that the eye was actually closed, I took two large wads of cotton, and placed them directly on the closed eyelid, and then bound them on with the handkerchief before used. The cotton filled the cavity under the eyebrow, came down to the middle of the cheek, and was in close contact with the nose. The former experiments were then repeated, without any difference in the result. She also took a pencil, and, while rocking in her chair, wrote her own name, each word separately, and dotted the i. Her father, who was present, asked her to write his name. 'Shall I write Little Billy or Stiff Billy?' was her reply, imagining that the question was proposed by a little boy of the name of William, belonging to the family. She wrote 'Stiff Billy'—the two words without connexion, and after writing them both, she went back and dotted the i in each. She then wrote 'Springfield' under them, and after observing it a moment, smilingly remarked that she had left out a letter, and inserted the l in the proper place."

A watch enclosed in a case was handed to her, and she was requested to tell the time. After examining both sides, she opened the case, and then answered the question. Afterwards, but in the same paroxysm, a gentleman present wrote his name in characters so small that no one else could distinguish it at the usual distance from the eye. As soon as the paper was put into her hand, she pronounced the name. It was thought that any attempt to open the eye would be indicated by the contraction of the skin on the forehead, but though she was closely watched, nothing of the kind was observed."

A few days after, she was removed to Dr Belden's house, where she had not long been, when a paroxysm occurred. "The room in the front part of the house she had never seen, except for a few moments several months before. The shutters were closed, and it was so dark that it was impossible for any one possessing only ordinary powers of vision to distinguish the colours in the carpet. She, however, though her eyes were bandaged, noticed and commented on the various articles of furniture, and pointed out the different colours in the hearth rug. She also took up and read several cards which were lying on the table. Soon after, observing her with a skein of thread in her hand, I offered to hold it for her to wind. She immediately placed it on my hands, and took hold of the end of the thread in a manner which satisfied me she saw it, and completed the operation as skillfully and readily as if she were awake. Having left the room a moment, I found her on my return with her needle threaded, and hemming a cambric handkerchief. She, however, soon abandoned her work, and was then asked to read a little while aloud. Bryant's poems were given to her; she opened the book, and turning to the 'Thanatopsis,' read the whole (three pages), and the most of it with great propriety. Something being said about her manner of reading, she observed that there were parts of the piece which she did not understand, and that she could read it much better if she understood it. The day before, she had procured several samples of calico at the shops, portions of some of which had been washed since the commencement of her paroxysm. On their being spread out before her, she not only told the shop at which she obtained each, and named its price, but compared the part which had been washed with the piece from which it was taken; and when there was any change, pointed out the difference."

A coloured girl came in and seated herself before her: she was asked if she knew that lady; she smiled, and returned no answer. Some one said, 'She has a beautiful complexion, has she not?' Jane laughed heartily, and said, 'I should think she was somewhat tanned.'"

Miss Rider was afterwards removed for greater quiet to the hospital in Worcester, where for some time she had from one to three paroxysms daily, during which she showed exactly similar powers. On the seventh day from her admission, she had a very interesting paroxysm. In a fit of the previous day, "she had lost a book which she could not afterwards find. Immediately on the access of the paroxysm to-day, she went to the sofa, raised the cushion, took up the book, and commenced reading. She read two or three pages to herself. Her eyes were then covered with a white handkerchief, folded so as to make eight or ten thicknesses, and the spaces below the bandage filled with strips of black velvet. She then took a book and read audibly, distinctly, and correctly, nearly a page. It was then proposed to her to play backgammon. She said she knew nothing of the game, but consented to learn it. She commenced playing, with the assistance of one acquainted with the moves, and acquired a knowledge of the game very rapidly. She handled the men and dice with facility, and counted off the points correctly. In another paroxysm in the afternoon, in which she played a number of games of backgammon, she made such proficiency, that,

without any assistance, she won the sixth game off Dr Butler, who is an experienced player. Knowing her to be a novice, he suggested several alterations in her moves—these alterations she declined making, and the result showed the correctness of her judgment. The doctor, a little mortified at being beaten by a sleeping girl, tried another game, in which he exerted all his skill. At its close she had but three men left on the board, and these so situated, that a single move would have cleared the whole. While she was engaged in this game, an apple was taken from a dish, in which there were several varieties, and held before her, but higher than her eyes. On being asked its colour, she raised her head, like a person who wished to see an object a little elevated, and gave a correct answer to the question. In the lucid interval, half an hour after she awoke from the paroxysm, it was proposed to her to play backgammon. She observed, she never saw it played, and was wholly ignorant of the game; on trial it was found she could not even set the men."

Three days after, she began to keep her eyes open during the paroxysms, and ceased to possess the former acuteness of vision. She was now under a powerful treatment, which in the course of a few weeks wrought a change for the better, and shortly thereafter she was restored to her usual state of health."

Of the facts here recorded we will not presume that any doubt can be entertained, as they rest on the authority of many trustworthy persons. The phenomena must be held simply as natural phenomena—manifestations different from what we commonly observe, but still perfectly natural manifestations, and only wonderful because of rare occurrence. It becomes, then, a curious inquiry, to what cause we are to ascribe circumstances so extraordinary. Dr Belden first adverts to the peculiar excitement of some of the mental faculties which was displayed in Miss Rider's case, analogous to that which exists in some cases of insanity, or in persons whose brain is affected by disease, or in consequence of mechanical violence. Thus we find her in her paroxysms reviving long past impressions, showing an ability to sing, and also acting on occasions the part of a mimic. The annals of medicine furnish many similar cases of an excitement of certain faculties during disease; but it is needless here to adduce examples. There is no difficulty, therefore, in considering this and the double consciousness, as simply effects of the malady with which Jane Rider was afflicted. To account for the extraordinary vision, Dr Belden rejects the idea that the case was of the character of those published by the disciples of Mesmer, and suggests that, notwithstanding the darkness caused by the bandages or otherwise, a minute portion of light insensible to common observers reached the eye of the patient, whose organs of vision must have been in a high degree of excitement."

"There is abundant evidence that this increased sensibility of the retina existed in Jane, and that during the paroxysm it was augmented to a very great degree. Hence it was that the light of the sun always gave pain to the eye, even when she was in her usual health—hence, too, during the paroxysm, she always closed the eye to exclude the light; and if the paroxysm occurred in the day time, made use of the additional defence of a bandage. This also accounts for the expression which she once used in a cloudy day—"What a beautiful day it is—how bright the sun shines!" The small quantity of light which passed through the eyelid was sufficient, in the excited state of the retina, to give her the impression that the sun shone. The extreme pain which she experienced when the light was thrown upon the unprotected eyelid with the mirror, is to be explained in the same way. The effect was equivalent to that which would be produced on a healthy eye, if, when open, it were suddenly placed in the focus of a powerful lens. These, and many other circumstances which might be mentioned, leave no room to doubt that the same causes which occasioned the paroxysm, produced a very great temporary augmentation of the sensibility of the retina—a sensibility which enabled her to see distinctly in a room so dark, that to common eyes no object was discernible."

But the question arises, will this state of the retina account for her seeing with her eyes closed and bandaged? That she could not see through substances absolutely opaque is certain; she could not see through a watch-case, nor have I any reason to suppose she could perceive objects through a book or a board, or in a distant apartment. Light passes through the eyelid, as every one can satisfy himself by looking with his eyes closed towards a candle or the sun. It also passes through a bandage, but in so small a quantity as not to be noticed by our organs of vision. If in the dark we hold a handkerchief doubled, or even quadrupled, between the eyes and a lamp, we can perceive light. We can easily conceive, therefore, that light enough may penetrate even a thick bandage, to be perceived when the organ is in a state of high excitement."

There is, however, one objection to this view of the subject. It may be admitted that light penetrates the bandage, and in quantity sufficient for vision. But, that a person may see external objects, it is necessary that a distinct image of the object be formed on the retina, even though it be a faint one. Now, the rays of light, in passing through a bandage, or through the eyelid, are so variously refracted that no distinct image is formed. If a piece of common

writing paper be held between the eye and a light, the paper appears luminous, but we cannot see through it. But, if the paper be oiled, it becomes, in a measure, transparent, so that we can see through it with tolerable distinctness. The rays of light in passing through it are then more equally refracted—that is, they are all alike bent out of their course, so that they afterwards form a distinct image. Light enough for vision unquestionably often penetrates the eyelid; but still we do not see, nor should we if the light were increased a thousand fold; no distinct image would be formed on the retina. Something more than extraordinary sensibility to the impression of light is necessary, therefore, in order to understand how objects can be seen when the eyes are closed. There must be, it appears to me, a change in the brain itself—an excited state of the organ—in consequence of which perception, so far, at least, as relates to this order of impressions, is effected more readily than usual. In this way we can conceive that it would be possible for even a confused image to be perceived.

Nor is this a mere supposition, entirely unsupported by evidence. There was certainly some change, in consequence of which Jane was able to recall past impressions with an extraordinary degree of distinctness. The power of perceiving the relation of sounds, which constitutes tune, was also developed, so that she could sing with a tolerable degree of correctness. These facts show conclusively, that some relations were perceived with a vigour and distinctness altogether unusual. Why not, therefore, admit that the same change extended to that function of the brain by which the mind perceives impressions transmitted from the retina!—or, in the language of phrenologists, that the organ of colour was excited equally with that of tune!

In the case of the servant girl, who in her paroxysms manifested such an astonishing knowledge of geography and astronomy, it is not at all probable that when she heard these subjects explained by the tutor, she understood his meaning. If so, she would afterwards have alluded to it. In the paroxysms, her intellectual powers were so much increased that she comprehended what was before to her a mere tissue of words without meaning, or what was at best but very imperfectly perceived.

One of the most extraordinary examples on record, however, of the effect of disease in developing the power of perceiving a certain class of relations, is that of Zerah Colburn. His history is well known. When quite a child, in his sixth year, without any previous instruction, he could, by mere intuition, perceive the relation of numbers with so much readiness and precision, as to solve, almost without reflection, questions in arithmetic which would require a long calculation to enable others to answer. How he obtained this result, he could not tell. The answer seemed to present itself to his mind with the same readiness and conviction of its truth, that the proposition two and two make four, does to us. These facts, I say, are well known; but it is not so well known that this power was the effect of disease. That such was the case, I have very little doubt. This was the opinion of a very distinguished physician who saw him at the time, and who ascertained that he was then affected with a peculiar nervous disease—the same which Jane had a few years since. In conversing with Mr Colburn, about a year ago, I asked him if he retained the power of calculation which he possessed in his childhood. He said no; and attributed the loss to a want of its exercise. But why should it require exercise to sustain a faculty in existence which was spontaneously developed!

Facts like these not only give plausibility to, but go far towards establishing the opinion, that the power of perceiving certain properties or certain relations may be very greatly increased, while the power of perceiving other properties or other relations is not affected, and that this change is the result of physical causes influencing the brain. I conceive, therefore, that the extraordinary power of vision manifested by Jane, was the result of the combined effect of two causes—first, the increased sensibility of the retina, in consequence of which objects were rendered visible in comparative darkness; second, a high degree of excitement in the brain itself, enabling the mind to perceive even a confused image of the object."

THE JEWELLER.—A TRADITION OF THE RABBINS.

The celebrated teacher, Rabbi Meir, sat during the whole of one Sabbath day in the public school, instructing the people. During his absence from the house his two sons died, both of them of uncommon beauty, and enlightened in the law. His wife bore them to her bed-chamber, laid them upon the marriage bed, and spread a white covering over their bodies. In the evening the Rabbi Meir came home.

"Where are my two sons," he asked, "that I may give them my blessing! I repeatedly looked round the school, and I did not see them there."

She reached him a goblet. He praised the Lord at the going out of the Sabbath, drank, and again asked—

"Where are my sons, that they too may drink of the cup of blessing!"

"They will not be far off," she said, and placed food before him that he might eat.

He was in a glad and genial mood; and when he had said grace after the meal, she thus addressed him—

"Rabbi, with thy permission I would fain propose to thee one question."

"Ask it, then, my love," he replied.

"A few days ago, a person intrusted some jewels to my custody, and now he demands them again: should I give them back again?"

"This is a question," said Rabbi Meir, "which my wife should not have thought it necessary to ask. What I wouldst thou hesitate or be reluctant to restore to every one his own?"

"No," she replied, "but yet I thought it best not to restore them without acquainting you therewith."

She then led him to the chamber, and stepping to the bed, took the white covering from the dead bodies.

"Ah! my sons, my sons!" thus loudly lamented the father; "my sons! the light of my eyes, and the light of my understanding!—I was your father, but ye were my teachers in the law."

The mother turned away and wept bitterly. At length she took her husband by the hand and said—

"Rabbi, didst thou not teach me that we must not be reluctant to restore that which was intrusted to our keeping? I see, the Lord gave, the Lord has taken away, and blessed be the name of the Lord!"

"Blessed be the name of the Lord!" echoed Rabbi Meir; "and blessed be his name for thy sake too, for well it is written, 'Whoso hath found a virtuous wife, hath a greater treasure than costly pearls: she openeth her mouth with wisdom, and in her tongue is the law of kindness.'"—Traditions of the Rabbins, translated by Coleridge.

FIELD SPORTS IN NORMANDY.

To the British or Hibernian fox-hunter, accustomed to turn out in pink and white-tights, and top, upon a thorough-bred horse, with a well-appointed pack of hounds, and to make a run through a close or heavy country, ten or twenty miles ahead, the ordinary mode of conducting the chase in France will appear extraordinary.

Before we give any sketch of the manner of hunting in Normandy, we must notice the description of dogs employed in the chase. The genuine Norman hound, which was originally introduced from Denmark by Rollo, is now very scarce; its characteristics are, great height and proportional strength, erect carriage, large and wrinkled head, a thick muzzle and hanging lips, a powerful throat, a dew-lap resembling that of the ox, and a thin tail. This fine specimen of the canine race wanted speed only; but in the attainment of this excellence (especially desirable for wolf-hunting) by admixture with the British variety, other valuable qualities have been lost; and the admirers of the true Norman dog lament the deterioration introduced by the rage for hunting in the English fashion, which has prevailed since the year 1815; and one of the old school pathetically asks, "Why could not the English remain satisfied with increasing the speed of their horses, without making actual hares of their hounds?"

The French and English breeds were, however, much commingled long before that time. From a French MS. of the seventeenth century, it appears that the sportsmen of that age considered the English hounds highly valuable, especially for their fleetness, and even as the most valuable variety, if they could be brought under command; the same opinion prevailed in the hunting establishment of Louis XV., composed of 140 dogs, of which a fourth was of English breed. Beagles were introduced into Lower Normandy before the great revolution, by M. de Rousselle, but soon after his death they degenerated, from indiscriminate crossing with other hounds.

The Frenchman says that the hounds of his country have a finer-toned cry, hunt with more spirit, carry their tails higher, try back, and make off their hits better, and that they may be heard five miles off, when the cry of an English pack would not be heard one. This supposed vocal superiority results not from any peculiar organisation of lungs, but from the style of running usual with the French hounds, which bear their heads erect, and not with the nose on the ground, and the voice consequently muffled. So much for the animals now employed in the chase by the Norman French.

The clearing of woods, with the progress of civilisation, has every where diminished, and in some districts almost annihilated, the deer where they used to be numerous. In all Normandy there are but half-a-dozen woods in which deer now abound, and not more than two well-appointed hunting establishments (*équipages de chasse*) of stag-hounds (kept by M. de Bonvouloir and M. Flaut) in that extensive province.

It was our good fortune to be present once at a stag-hunt at Chantilly, when the last of the princes of Condé partook of the amusement with an *équipage* suited to his princely rank and possessions. The arrangements were on the most effective scale. The prince, with his personal staff of gentlemen and huntsmen, with their subordinates, appeared on the field with twenty-eight horses. He himself, with those of his suite who had personal or official rank, were dressed—not in pinks and whites, but in buff-coloured coats, somewhat of a frock form, boots partaking of the heavy cavalry cut, and cocked hats, and a *couteau de chasse* at the side. A crowd of less important personages followed in his rear.

The field operations were planned and conducted thus—The corps, which consisted of forty couples (a small portion of the entire force kept in the kennel

at Chantilly), was separated into four unequal divisions, or *relais*, as they are termed. The first (called the *lance*), was composed of the *élite* as to speed and scent. The second division, which was termed the first *relais*, comprised about the same number of the second-best troops. The third also contained the same in number. The fourth was a kind of veteran battalion, consisting of the remainder of the force, divided into very small parties of observation, to be brought into action and pursuit on the doubles of the enemy, and to harass him in the rear, or cut off his retreat.

The previous dispositions being thus made upon the ground, the manœuvring commenced thus:—The man (*valet de limier*) who had the charge of the single stanch hound, on whose accuracy of scent in discovering the first tracks of the stag the utmost dependence is placed, laid him upon what he conjectured to be the true track, holding him always by a leash, in order at once to restrain and guide his motions; at the same time, the huntsman took a circuit outside the wood with a single dog, to have an eye upon the passes by which the stag was likely to return into the covert, if he should have been driven out in other quarters. There was a great deal of preliminary movement of this kind; the valet inside being as cautious in his observations as an Indian hunter, and apparently as quick of apprehension in noticing all the indications of the movements of the stag in advance or retreat, making fresh *bristes* wherever the sagacity of his hound or his own acuteness led him to perceive that the hunted stag had doubled in the covert, or started another in his place to mislead his pursuers.

On the particular occasion to which we allude, the preparations had been so completely made, that little time was lost in this way; the precise retreat of the stag was soon ascertained and reported to the nobleman who conducted the proceedings, and who ordered the advance of one of the *relais*. The attacking party was led by the *piegner* on foot, who seemed to say to them, with the pithy eloquence of a distinguished general, "There is the enemy!" They rushed in as fast as the restraining couples would permit, and wagged their tails and snuffed the scent in the canine fashion: he sounded on his horn a few notes of encouragement, while the prince and other horsemen were eagerly watching on the outside of the wood, speculating upon the passes through which they might best traverse it.

We were fortunate enough at Chantilly to witness a fine pursuit, without serious checks, or even once hearing the *requête*—the signal of retreat. Full of ardour and that love of glory which the young pack always possesses, the first *relais* pressed on the heels of the flying fox, without breaking their ranks, without confusion or perplexity of any sort, during a chase of twelve miles.

The prince and his suite had a splendid gallop through the open passes of the forest and the surrounding country, without the impediment of a five-barred gate or any sort of fence, which, notwithstanding the ardour of their movements, would have been insurmountable barriers to men and horses accustomed only to a clear course. In point of fact, none of us (for we had our charger too) would have seen much of the sport, if there had not been ready-made roads for our gallop. As the stag went off without the doubles, which would have rendered necessary the advance of any of the other *relais*, the first division had the undivided glory of this pursuit, and very wearied they were; and very foot-worn, and exhausted, and miserable, was the enemy in the last stage of his retreat. His instinct led him to cross and recross rivulets. He halted for a moment in a little woody island—took shorter and shorter rings in a small area—stooped his noble head—seemed bewildered with agonising fear at every moment—staggered frequently from exhaustion—and then, as a last but vain security, with nerveless limbs, threw himself into the middle of a deep pond—turning to his almost breathless assailants his armed and still formidable front. But in vain: the whole body of pursuers, human and canine, arrived—the cry resounded; and one of the boldest of the gentlemen in advance put an end to the sufferings of his prostrate foe with a *couteau de chasse*.

The huntsman—oh, Sport! what hast thou not to answer for!—after the dogs had gratified their revenge by trampling upon the body and licking the blood, cut off the right foot, and plaiting a bit of the skin attached, presented it to the prince, who soon came up. After this preliminary mutilation, the body was placed on its back, and the skin removed; the first incision was made at the knee and hock joints; the muzzle, pluck, tongue, ears, fillet, haunch, and other dainty morsels, were then laid aside for the table; the body was then rolled up in its skin, like a defunct warrior in his watch-cloak, and placed upon the belly in the attitude of repose. The huntsman then sounded a *vue*; the dog-boy removed the skin, shouting the cry of victory—*hallali! hallali!*—and the dogs uncoupled, rushed upon the poor remains of the carcass with very enviable appetites. We do not here mean to present to the reader any details of the chase of the boar or the wolf, and shall only add a few remarks respecting fox hunting, in which the Englishman feels a nearer interest.

The French fox-hunter goes on foot to the cover, and prepares to attack *reynard* in his own peculiar fashion. Instead of the smart and showy costume familiar to us, he is probably clad in strong trousers, gaiters or

jack-booted half way up his thighs, has his body enveloped in a brown goatskin jacket, or some other dark-coloured material—not à la Brien O'Lynn, but with the hairy side out—and his head encased in a cap slouched over his ears, while his chin is defended from the wind with a thick bushy covering of natural hair, such as might render a buck-goat jealous: he carries a rifle or fowling-piece along over his shoulder.

The French idea of fox-hunting is, that it is only suited to bungling and inexperienced sportsmen, and an inferior kind of hound; and in point of practice, it is merely a system for destroying the animal, without much regard to the sport itself; just as the Scottish Highlander would kill him for the security of his master's sheep, and with the sole object of producing the head, in proof of his industry, on quarter day.

Instead of stopping the earths in our fashion, the experienced earth-stopper in Normandy puts opposite to each hole at night a piece of well-oiled white paper, fastened to a wooden pin stuck into the ground, which has the double advantage of not preventing the egress of the fox, and yet of deterring him from entering during the night, if he had been previously without. The number of dogs used in the chase of the fox is so small, that it is very hard to make him break cover; nor is this desired, for in such case the sportsman would never see any more of him. He takes up his position in the wood, and there the manoeuvres on both sides are conducted, though the piqueur himself can do little in person but sound his horn and shout as a Frenchman loves to do.

The sportsman, clad in his dark jacket, stands to leeward, but under the close shelter of a tree or hedge, in order that the fox may neither wind nor view him; and he places himself on the paths by which the fox is likely to make his retreating doubles, because if he be not pressed or disturbed, he is sure to try them, and all his earths in the neighbourhood.

The cries of the different persons in the wood indicate the close appearance of the fox. If the riflemen in ambush can get a shot at the poor fellow, who is by one contrivance or another prevented from entering his earth, the battle is won; otherwise, he is destroyed by the terriers in the earths, or in running from one stronghold to another; and sometimes he and a whole family, perhaps, are destroyed in his barracks with sulphur put into the earth, which is closed at the entrance. In short, there is no sport at all in the whole affair, except in a few localities where the English have introduced something of regular hunting. The flesh may possibly, to some persons, be an inducement to persecute him; it is said not to be very bad, if pickled, roasted, and served up in a hare ragout.

A WORD TO COTTAGERS.

COTTAGERS who keep cows and pigs are not aware of the loss they incur from allowing these animals to live in an uncleanly manner. Some people think they do quite enough for their cows or pigs if they only give them food and shelter; but, besides this, it is certain that both require to be kept very cleanly, though seldom indulged in that luxury. The cow should be curried daily like a horse; its hide should be freed from all impurities, and relieved from every thing that causes uneasiness. When you see a cow rubbing itself against a post, you may depend on it that the animal is ill kept, and requires a good scrubbing. If well curried, the health is improved, and that improves the quality of the milk, besides increasing the quantity. A cottager might easily make two or three shillings more of his cow weekly by attention to this point; and if he at the same time took pains to preserve all the liquid refuse of the cow-house, he might double that amount. How strange to reflect that many decent and well-meaning, but ignorant and rather badly-disposed people, are suffering a dead loss of four or five shillings weekly from no other cause than this! It is long, however, before old habits are eradicated, and new and better ones introduced.

In some parts of England, the quality of pigs has been greatly improved by attention to cleanliness. The pig is not naturally a dirty animal. No animal is naturally dirty. The whole of the inferior animals possess an instinctive love of cleanliness, and will keep themselves clean accordingly, if left to pursue their own way. But neither cows nor pigs are allowed to take their own way; they are reduced to servitude, pent up in confined houses, and have not opportunities for pursuing their inclinations. The pig, if let alone, wallows in the mire; some people call this a symptom of dirtiness; it is no such thing. The animal takes this means of cleaning its skin. The mire, being dried on its body, is afterwards rubbed off, and with it those impurities which it is desirable should be removed. Under man's dominion, the process of cleaning can be much more effectually performed by means of a brush and water. The pig never offers any objection to this agreeable operation, and the benefit derivable from it is remarked in the increased comfort and growth of the animal. This is no theory; it may be proved by experiment. Some time ago, as we lately observed by a paragraph in the newspapers, a gentleman in Norfolk tried the experiment as follows:—Six pigs of equal weight were put to keeping at the same time, and treated the same as to food and litter for seven weeks. Three of them were left to shift for themselves as to cleanliness: the other three were kept as clean as possible, by a man em-

ployed for the purpose, with a currycomb and brush. The last consumed in seven weeks fewer peas by five bushels than the other three, yet weighed more when killed by two stones and four pounds upon the average. Here, it is obvious, was a considerable gain, all by a little attention to cleaning a few pigs; and there is no reason in the world why every cottager who rears these animals should not gain money in the same way. A little less lounging and smoking, a little less drinking, a little less expenditure of thought on matters of no practical concern, would leave ample leisure for performing the useful duties we have taken the liberty of pointing out.

ON THE FATE OF "THE PRESIDENT" STEAM-SHIP.

BY CAMILLA TOULMIN.

Is there not one the mournful tale to tell,
And paint the picture with truth's lasting hue?
Must sicken'd fancy, shuddering, vainly dwell
On the ghastly horrors conjured to our view—
Happily unweal all, though truth-like each—
Mocking the hearts that truth shall never reach?

Hope fades away, and now her sweet words sink
To a mere soulless echo; while Despair
Is wrestling with the heart that trembling shrink
From his embrace. Must we no longer dare
To trust bright hope, that still will fondly cling
To each wild chance of our imagining?

Answer, old Ocean, from thy caverns deep!
Answer, ye summer waves, that harmless now
Sparkle beneath the sunbeams! Do ye keep
Records of your dark doings; or avow
Your right, with majesty supreme and cold,
To the red tribute ye have claim'd of old!

Ocean, thou art not all a monarch! Man
Has half subdued thee to his rebel will.
Must the dread struggle last for ever? Can
His triumph swell by mightier victories still?
In God's right hand an instrument art thou,
But to man's mind God may thy greatness bow!

Answer, sea breezes!—that with healthy breath
Kiss the pale cheek of sickness or of care—
Will ye the tale unfold of woe and death?
Do ye no message to the mourners bear?
Gaily ye come, ruffling each leaf and flower;
Hath ye forgot the tempest's darker hour?

And thou, pure sky!—whose dome of azure bright
Seems but to canopy a smiling world;
And wakeful stars! that pierce the veil of night,
In that stern hour were all your glories fur'd?
Or did ye weave of them a funeral pall,
O'er the unknown, unpictured scene to fall?

Wind, ocean, sky, I ask of ye anew,
Will ye not cast one ray to light the gloom
Of blank obscurity? Do ye have view
Above, a pall?—a ocean but a tomb?—
And did the winds the requiem perform,
'Mid the wild fury of the raging storm?

Between ye is the triumph—take it all!
Hopes rudely crush'd—affection's altar'd tie—
The widow's, parent's, orphan's tears that fall—
Racking the hearts that break not—tears that rise
From that deep well of bitterness and woe,
Where human agonies are born and grow!
Is it not said that in this real world,
He who descends to a deep pit can see,
Even at mid-day, the stars above? And, hush'd
Into this well of grief, oh! may it be
That heavenly light shall cheer the mourner's way,
O'er which cold death has veil'd earth's brightest ray!

June 1, 1841.

ROMANCE IN REAL LIFE.

[From the New York Sunday Morning News.]

"Married on Tuesday, by the Rev. William Ash, Thomas Mowitt to Charlotte Conroy, both of this city."

The above marriage took place in New York on last Tuesday week, and thereby hangs a tale of the marvellous. Mr Mowitt is a respectable boss shoemaker, who keeps several men employed, and amongst the rest was John Pelsing, who had ingratiated himself so much in his favour by his faithfulness, industry, and sobriety, that he took him into partnership about three years since, and had no cause to regret his kindness. From that period Mr Mowitt and Mr Pelsing were constant friends and companions, and boarded in the same house, until about twelve months since, when one day they were subpoenaed for a coroner's inquest, which was about to be held on the body of a man that had been taken out of the Maiden Land Dock. The deceased had all the appearance of having been a regular dock loafer, and it was the opinion of all present that he had fallen into the slip while in a state of intoxication; but the verdict—which was given in a few minutes—was merely "Found Drowned." The jury being dismissed, Mr Mowitt turned round to look for his friend and fellow-juror, who had been at his side till that moment, but he was gone; and he thought he saw him running at almost full speed up Maiden Lane. This struck him as being curious; and it also reminded him of another curious fact (at least curious as taken in connexion with his sudden flight), namely, that when Mr Pelsing had first glanced at the face of the corpse, he started and turned deadly pale. Mr Mowitt then proceeded to his boarding-house, and thence to his store, to look for his partner, but he was to be found at neither; nor did he return that night; nor the next; nor the next; and two months passed away without bringing any intelligence of him, during which time Mr Mowitt had fully made up his mind that there was some mysterious connexion between his friend and the man that was found drowned, and that, in consequence thereof, Mr Pelsing had in all probability made away with himself.

Well, so matters rested until a certain day in last June, when a lady called at Mr Mowitt's store, and asked for Mr Pelsing. She was told the particulars of his story. "And hasn't he been here since?" she inquired. "Not since," replied Mr Mowitt. "I know he has," said the lady. "He has not, I assure you, at least to my knowledge," answered Mr Mowitt. "But I am positive!" said the lady, somewhat smartish. "What proof have you of it?" inquired the shoemaker. "The best in the world," returned the stranger, "for I am here, and I and Mr Pelsing are one and the same person." And, strange as it may appear, such was the actual fact. Well, the question was, whether Mr Pelsing was a gentleman or a lady, and it turned out that she was a lady; and more than that, her name wasn't John Pelsing at all, but Charlotte Conroy; and furthermore, that she was the widow of the man that had been found drowned. She then stated that her husband was a shoemaker in Philadelphia, to whom she had been married about two years, and who treated her very badly, the consequence of which was, that she picked up his trade by stealth, and when she thought she was sufficiently perfect, equipped herself in men's clothes, and ran off to this city to be the more safely out of the reach of her lord and master. Here, as we have seen, she got into the employment and remained in the confidence of Mr Mowitt until the time of the coroner's inquest, immediately after which she proceeded to Philadelphia, where she learned that her husband (who had become a wandering loafer) had, on the hint of some friend, set out to New York about a week before, to look for her; but where, instead of an injured wife, he found a watery grave. The upshot of this romantic affair was, that Mr Mowitt requested Mrs Conroy to make his house her home; that after a while he found that he liked her yet better as Mrs Conroy than as Mr Pelsing; that by virtue thereof, he proposed a renewal of their terms of partnership, which was accepted; that on last Tuesday week Mr Mowitt and the late Mr John Pelsing became husband and wife. This is the first instance, we believe, on record, wherein a wife performed the office of a coroner's jurymen on the body of her own husband, or wherein a young man was married to his own master. The lady, by the way, is very good-looking, and still on the safe side of thirty.

IMPROVEMENTS IN HAVANNA.

From a letter written from Havanna, by General Talmage, president of the American Institute, to a friend in the United States, and lately published in a newspaper, we learn that the island of Cuba is beginning to partake of that species of practical improvement which seems to be spreading gradually over the earth. The inhabitants, who are mostly of Spanish origin, have long been known as sunk in that ignorance and slothful indifference to objects of utility which has brought Spain and all its foreign possessions to a state of general decay. For instance, it is still customary in Cuba to carry all country produce to the ports for shipment on the backs of mules. We are told that caravans of fifty or one hundred mules, loaded with sugar, tobacco, coffee, or molasses, are often met on the tracks which serve for roads, the transport being both most tedious and expensive. One planter has for some time transported his produce on the backs of camels, having imported that kind of animals for the purpose. But, as the authority above quoted observes, all this is passing away. "A railroad has recently been completed from Havanna, forty-one miles into the country, and is in very successful operation. It is to be continued a much greater distance, and three or four lesser roads are now commenced.

The example and influence thus far, are amazing. The Spaniard is aroused from his magnificent sleep of ages. He sees the force of action; he feels the influence and facilities of communication; he realises that the cost of the transportation of produce of his estate is changed from pounds into pence, and that care and speed are exhibited in the place of waste and delay. Thousands of mules and hundreds of slaves are already dismissed from the business of transportation into other pursuits. The competition in the production of cotton, coffee, and sugar, has, within our memories, reduced the price of those articles to the consumer one-half or one-third of what it was. This competition is increasing. Egypt, South America, Mexico, and Texas, and our own southern and western states, are increasing their abundance, and India, guided by British skill, is adding her surplus to fill up the market, and all will yet reduce their prices to the lowest point of production. Sugar is now selling here at three cents, which must pay freight, commissions, expenses, and duty to us of 2½ cents, before it can get into our markets in competition to the sugar of New Orleans."

What a fact is communicated in the last sentence! Sugar selling in Cuba at three halfpence a pound; and upon this the United States impose an import duty of twopence halfpenny, while as much is charged upon its import to England. Verily, mankind exercise no small ingenuity in the art of self-tormenting.

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Supplied also, wholesale and for exportation, by WARRING WERE, Castle Street, Liverpool; BAXENDS and Co., and SINNS and DINHAM, Manchester; WRIGHTSON and WERE, Birmingham; SLOCOMBE and SINNS, W. E. BOWERSALE, and T. HARRISON, Leeds; of whom may be had all Messrs CHAMBERS'S publications. Printed by Bradbury and Evans, Whitefriars.